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### ABSTRACT

Lithium is laminated onto or into an electrode structure comprising a metal conducting layer with an active material mixture of, for example, a nano-composite of silicon monoxide, together with graphite and a binder, such as polyvinyl di-fluoride (PVDF). The lamination of lithium metal onto or into the electrode structure will reduce the amount of irreversible capacity by readily supplying a sufficient amount of lithium ions to form the initial solid electrolyte interface. In order to laminate lithium metal onto or into the negative electrode, the lithium is first deposited onto a carrier, which is then used to laminate the lithium metal onto or into the electrode structure. The next step is placing the coated electrode material and the lithium-deposited plastic between two rollers or two plates. The rollers or plates are heated to about 120°C or within the range of 25°C to 250°C. A pressure of 50 kg/cm<sup>2</sup> to 600 kg/cm<sup>2</sup> is applied to the rollers. The speed of movement of the materials through the roller pair or the plate pair is in the range of 10 cm/min to 5m/min. The method can be used for either single-sided or double-sided coating. Using this technology alone, the battery capacity can increase by 7% to 15%.